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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,359	12/30/2000	Gary Cao	042390P9473	8440

7590 03/07/2006

Michael A. Bernadicou
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER

RAO, SHRINIVAS H

ART UNIT PAPER NUMBER

2814

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,359

Applicant(s)

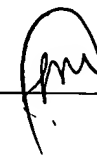
CAO ET AL.

Examiner

Steven H. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement is made of priority papers filed claiming priority from U.S. Patent Application NO. 09/752,359 filed on December 30, 2000 .

Continued Prosecution Application

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on December 19, 2005 has been entered on December 28, 2005.

Therefore claim 1 as amended by the amendment and claims 2-11 as previously recited are currently pending in the Application.

Claims 12-16 were previously cancelled.

Claim Rejections - 35 USC Section 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satya et al. (U.S. Patent No. 6,528,818, herein after Satya) and Browning et al. (U.S. Patent No. 5,580,829 herein after Browning), both previously applied and further in view of Stearns et al. (U.S. Patent No. 5,715,385, herein after Stearns) presently newly applied.

With respect to claim 1 Satya describes a structure comprising: a first set of features disposed in a scribe line, (Satya abstract line 2-4, Satya col. 37 lines 28 to 30) said first set of features being a subset of product features, (Satya figure 27, etc.) and , a second set of features disposed in said scribe line and merged directly into said first set of features, (Satya abstract lines 6-8, Satya col. 37 lines 28 to 30) .

Satya does not specifically mention or describe the second set of features occupying a smaller area than the first set.

However Browning in figure 4 and col. 4lines 40-52 describes the second set of features occupying a smaller area than the first set (i.e. first set is larger oversize by about 10% to reduce the amount of extra metallic material deposited on dice such that bowing is eliminated and human error is virtually eliminated by creating the second mask key . (Browning col.2 lines 35-40).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Browning's second set occupying a smaller area than said first set, in Satya's device to reduce the amount of extra metallic material deposited on

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dice such that bowing is eliminated and human error is virtually eliminated by creating the second mask key . (Browning col.2 lines 35-40).

The remaining limitations of claim 1 are :

second set of features created by geometric transformation of said product features, including rotating , space scaling and linewidth scaling .

Satya and Browning do not specifically describe the presently newly added limitation second set of features created by geometric transformation of said product features, including rotating , space scaling and linewidth scaling.

However Stearns in col. 2 line 30 to col. 6 line 13 describes second set of features created by geometric transformation of said product features, including rotating , space scaling and linewidth scaling to perform the method at higher speeds realizability and an easier simpler less expensive method.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Stearns' second set of features created by geometric transformation of said product features, including rotating , space scaling and linewidth scaling in Satya and Browning's devices , the motivation for the afore mentioned combination is to perform the method at higher speeds realizability and an easier simpler less expensive method (Stearns' col. 2 lines 35-38 and lines 45-47) .

With respect to claim 2 Satya describes the structure of claim 1 wherein critical dimension (CD) is measured on said first set of features. (Stay figure 2, col. 8 lines 1 5-22).

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With respect to claim 3 Satya describes the structure of claim 1 wherein said first set of features and said second set of features differ in spaces between features. (Staya figure 4D # 216 and 214)

With respect to claim 4 describes the structure of claim 1 wherein said first set of features and said second set of features differ in line widths of features. (Staya figure 4 D).

With respect to claim 5 describes the structure of claim 1 wherein said first set of features and said second set of features have the same pitch for features. (Satya figure 4C).

B. Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satya et al. (U.S. Patent No. 6,528,818, herein after Satya) ,Browning et al. (U.S. Patent No. 5,580,829 herein after Browning) and in view of Stearns et al. (U.S. Patent No. 5,715,385, herein after Stearns) as applied to claims 1-5 above and further in view of Gallarada et al. (U.S. Patent No. 6,539,106 herein after Gallarada).

With respect to claim 6 Satya and Browning describe the structure of claim 1.

However Staya, Browning and Stearns do not describe wherein said first set of features comprises a first array of holes.

However, Gallarada in figure 4, col. 6 lines 36 to 48 describes wherein said first set of features comprises a first array of holes to identify defects of electrical significance, such as missing or incompletely formed contact holes and provide methods for inspection by matching of features between the images.

Therefore, it would have been obvious to one of ordinary skill in the art at the time for the invention to include Gallarada's teachings of first set of features comprises a first array of holes, in Satya' and Browning's first/second set of features. The motivation to make the above substitution is to to identify defects of electrical significance, such as missing or incompletely formed contact holes and provide methods for inspection by matching of features between the images. (Gallarada col. 6 lines 40-47).

With respect to claim 7 describes the structure of claim 6 wherein said first array of holes comprises a 5 by-5 square array of holes. (Gallarda figure 5).

With respect to claim 8 describes the structure of claim 6 wherein said second set of features comprises a second array of holes. (Gallarda figure 5).

With respect to claim 9 describes the structure of claim 8 wherein said second array of holes differs from said first array of holes in size of array. (Gallarda figure 5 #536 compared with other structures 526-534).

With respect to claim 10 describes the structure of claim 8 wherein said second array of holes differs from said first array of holes in space between holes. (Gallarda figures 18 A and E)

With respect to claim 11 describes the structure of claim 8 wherein said second array of holes differs from said first array of holes in line widths of holes.. (Staya figure 4 D).

Response to Arguments

Applicant's arguments filed 12/19/2005 have been fully considered but they are not persuasive for the following reasons :

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Applicants' contention that Staya and Browning do not teach a second set of features created by geometric transformation of the product features, including rotating, space scaling and linewidth scaling is moot in view of the newly applied Stearns reference.

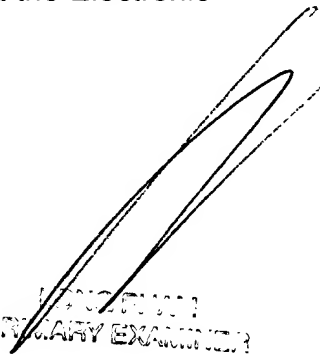
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is (571)272-1718. The examiner can normally be reached on 8.00 to 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fahmy Wael can be reached on (571) 272-1714. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Steven H. Rao
Patent Examiner

Feb. 28, 2006.


STEVEN H. RAO
PRIMARY EXAMINER